

U. S. PTO Customer No. 25280

Case #5602

REMARKS

**RECEIVED
CENTRAL FAX CENTER**

35 USC Section 103 Rejections:

SEP 25 2006

2. Claims 1 – 6, 12 – 18, 22 – 23, 28, 30, 32, 34 – 35 and 37 were rejected under 35 USC 103(a) as being unpatentable over Nun et al. (US 2003/0147932) in view of Morgan et al. (US 2003/0096083).

The Examiner states that Nun et al. teach a self-cleaning surface for an article that has a "lotus effect" surface (Abstract) which provides a hydrophobic surface [0003]. The Examiner further states that the applied article taught by Nun's invention may comprise polyurethane fibers [0041]. The Examiner states that Morgan et al. teach a method of creating extremely hydrophobic surfaces that consist of elevations and indentations and that have a hydrophobic layer on their exterior (Abstract).

To establish *prima facie* obviousness of a claimed invention, the proposed modification cannot render the prior art unsatisfactory for its intended use (MPEP § 2143.01; *In re Gordon* 733 F.2d 900, 221 USPQ 1125 Fed. Cir. 1984). Applicants respectfully submit that the combination of references suggested by the Examiner would destroy the intended function of at least one of the references.

Nun teaches the application of antimicrobial particles to surfaces, wherein the antimicrobial particles have hydrophilic properties [0039]. Nun further teaches that hydrophobic particles may also be added to surfaces [0034]. Nun further states that "the antimicrobial particles must not be hydrophobicized, since the antimicrobial property is lost when a hydrophobicizing reagent covers the surface" [0055]. Morgan teaches a method of creating extremely hydrophobic surfaces that consist of elevations and indentations and that have a hydrophobic layer on their exterior (Abstract).

Thus, Applicants respectfully contend the combination of Nun and Morgan, as proposed by the Examiner, would destroy the intended function of Nun. More specifically, since Morgan teaches only hydrophobic surfaces and Nun teaches that "the antimicrobial particles must not be hydrophobicized," such a combination would destroy the intended function taught by Nun of providing surfaces having antimicrobial properties. As such, Applicants respectfully submit that a *prima facie* case of obviousness has not been established. Reconsideration and withdrawal of this rejection is earnestly requested.

U. S. PTO Customer No. 25280

Case #5602

3. Claims 10 – 11, 19 – 21, 24 – 27, 29, 31, 33, 36 and 38 – 39 were rejected under 35 USC 103(a) as being unpatentable over Nun et al. (US 2003/0147932) in view of Morgan et al. (US 2003/0096083) and further in view of Soane et al. (USPN 6,607,994).

The Examiner submits that the inventions of Nun and Morgan are silent to the use of crosslinked polyurethane as well as nonwoven, woven, knitted substrates or scrims for surface modification. The Examiner further submits that Soane et al. teach a permanent treatment of textiles and other webs that includes the chemical covalent bonding of a payload of nanoparticle on the surface of a fiber, yarn, fabric, etc. (Abstract). The term "textile" encompasses woven, nonwoven, and knitted substrates (col. 2, lines 45-48). The Examiner takes the position that the intent of Sloane et al. is to encompass all textiles, which includes scrims. The "payload" may be attached to the textile via crosslinked polyurethane polymer (col. 6, lines 25-38). Thus, the Examiner submits that it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have made the article of Nun et al. with textile substrates of Soane et al. and attach the nanoparticles via crosslinked polyurethane motivated by the desire to use "smart polymers" that react to the environmental surroundings (col. 6, lines 15-28) and create a treated textile for use in a wide variety of applications.

Applicants respectfully disagree with the basis of this rejection and rely on the discussion presented above (see page 2 above) with regard to the impropriety of the combination of Nun et al. and Morgan et al. Soane et al. teach encapsulated nanoparticles which may be attached to the surface of a textile substrate (Abstract) and that the polymers used in forming the nanoparticles may be either hydrophobic or hydrophilic (col. 3, line 46 to col. 4, line 54).

Since Applicants have already concluded that the combination of Nun and Morgan is improper, and since Soane fails to provide for the deficiencies of Nun and Morgan, Applicants respectfully submit that this rejection is improper. Reconsideration and withdrawal is earnestly requested.

U. S. PTO Customer No. 25280

Case #5602

4. Claims 7 – 9 and 40 – 45 were rejected under 35 USC 103(a) as being unpatentable over Nun et al. (US 2003/0147932) in view of Morgan et al. (US 2003/0096083) and further in view of Yamamoto et al. (US 2004/0202818).

The Examiner relies on Yamamoto et al. for a teaching of fluoroacrylates and submits that it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have coated the article of Nun et al. with a fluoroalkyl group-containing (meth)acrylate motivated by the desire to make the article more hydrophobic.

Applicants respectfully disagree with the basis of this rejection and rely on the discussion presented above (see page 2 above) with regard to the impropriety of the combination of Nun et al. and Morgan et al. Yamamoto et al. is directed to compositions and methods for imparting oil and water repellent properties to a textile substrate (Abstract).

Since Applicants have already concluded that the combination of Nun and Morgan is improper, and since Yamamoto fails to provide for the deficiencies of Nun and Morgan, Applicants respectfully submit that this rejection is improper. Reconsideration and withdrawal is earnestly requested.

Double Patenting Rejections:

5. Claims 1 – 45 were provisionally rejected on the grounds of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-70 of copending Application No. 10/785,218.

Applicants have submitted herewith a terminal disclaimer in order to overcome this rejection.

U. S. PTO Customer No. 25280

Case #5602

Conclusion:

For the reasons set forth above, it is respectfully submitted that all claims now stand in condition for allowance.

Should any issues remain after consideration of these Amendments and accompanying Remarks, the Examiner is invited and encouraged to telephone the undersigned in the hope that any such issue may be promptly and satisfactorily resolved.

In the event that there are additional fees associated with the submission of these papers (including extension of time fees), authorization is hereby provided to withdraw such fees from Deposit Account No. 04-0500.

Respectfully requested,

September 25, 2006

Brenda D. Wentz
Brenda D. Wentz
Agent for Applicants
Registration Number 48,643
Telephone: (864) 503-1597